National Cancer Institute

A Snapshot of Melanoma

Incidence and Mortality

Melanoma, the most deadly form of skin cancer, is the fifth most common type of new cancer diagnosis in American men and the sixth most common type in American women. The incidence and mortality rates for invasive melanoma are highest in whites, who are about ten times more likely to develop melanoma than African Americans. Men aged 40 or older are almost twice as likely to develop melanoma as women in the same age group. The annual incidence of melanoma among whites has increased steadily, with an increase greater than 60 percent over the past 30 years. Increases have been most rapid among white women aged 15 to 39 years, in whom incidence has increased by 3 percent annually since 1992, and among white men older than 65, in whom incidence has increased by 5.1 percent annually since 1975.

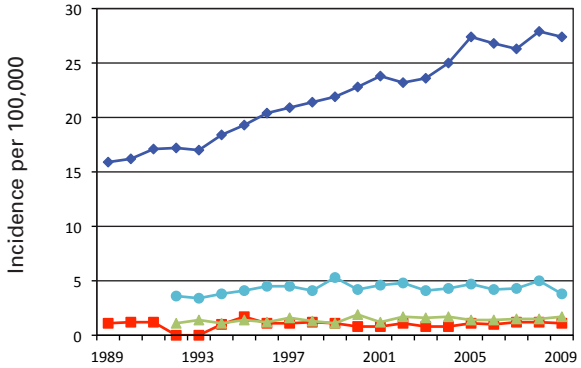
Risk factors for melanoma include having fair skin that burns easily, high lifetime exposure to natural or artificial sunlight, a history of blistering sunburns, having a dysplastic nevus or many common moles, and a family history of melanoma. Avoiding sun exposure and using sunscreen may reduce the risk of melanoma. Visual skin examinations are sometimes used to screen for skin cancer. Standard treatments for melanoma include surgery, chemotherapy, targeted therapy, and biological therapy.

Approximately $2.4 billion[1] is spent in the United States each year on melanoma treatment.

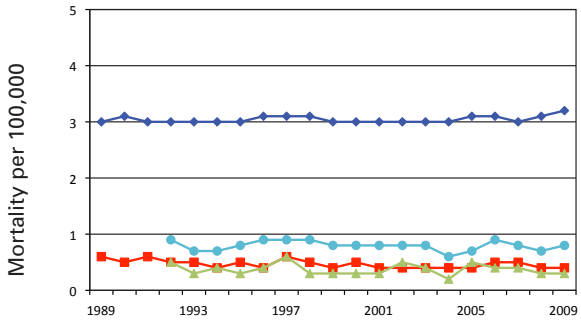
Source for incidence and mortality data: Surveillance, Epidemiology, and End Results (SEER) Program and the National Center for Health Statistics. Additional statistics and charts are available at the SEER Web site.

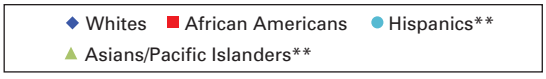
[1] Cancer Trends Progress Report, in 2010 dollars.

U.S. Melanoma Incidence*



U.S. Melanoma Mortality*





* Insufficient data available for time trend analysis for American Indians/Alaska Natives.
** Incidence and mortality data not available before 1992.

Trends in NCI Funding for Melanoma Research

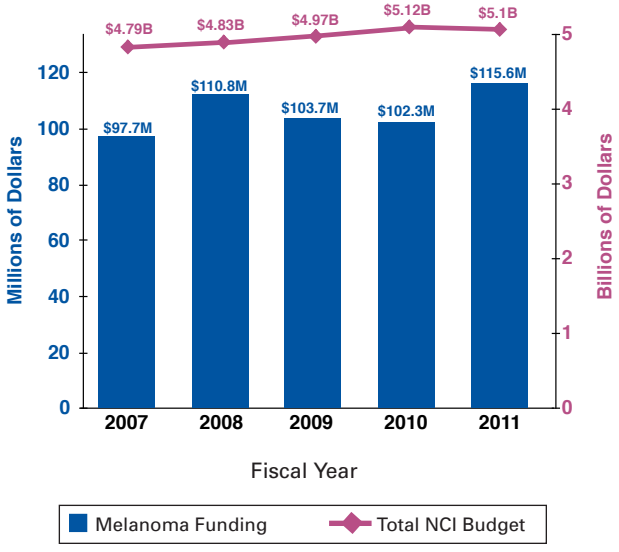
The National Cancer Institute's (NCI) investment[2] in melanoma research increased from $97.7 million in fiscal year (FY) 2007 to $115.6 million in FY 2011. In addition to this funding, NCI supported $25.2 million in melanoma research in FY 2009 and 2010 using funding from the American Recovery and Reinvestment Act (ARRA).[3]

Source: NCI Office of Budget and Finance.

[2] The estimated NCI investment is based on funding associated with a broad range of peer-reviewed scientific activities. For additional information on research planning and budgeting at the National Institutes of Health (NIH), see About NIH.

[3] For more information regarding ARRA funding at NCI, see Recovery Act Funding at NCI.

NCI Melanoma Research Investment



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

If you are reading a paper copy of this Snapshot: PDF Snapshots with hyperlinks to additional information and resources can be found online at: http://www.cancer.gov/aboutnci/servingpeople/cancer-statistics/snapshots

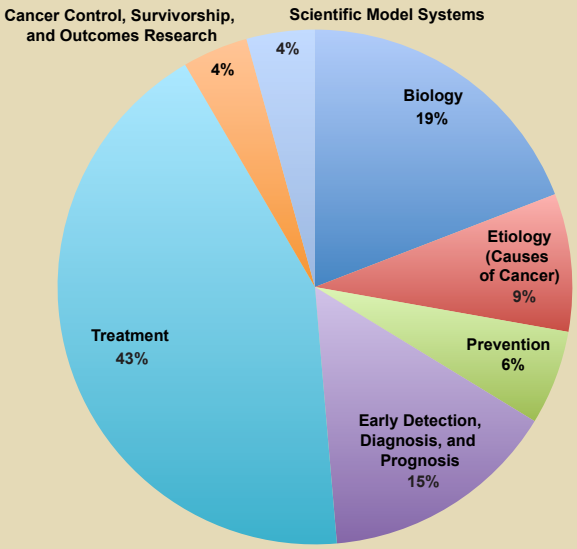
Examples of NCI Activities Relevant to Melanoma

- Health professionals can use the **Melanoma Risk Assessment Tool** to identify individuals at increased risk of melanoma in order to plan appropriate screening interventions.
- NCI supports early-phase clinical trials of targeted, personalized cancer regimens through the **Accelerating Clinical Trials of Novel Oncologic PathWays (ACTNOW)** program, including a phase II trial for melanoma patients with specific tumor gene mutations.
- The **Clinical, Laboratory, and Epidemiologic Characterization of Individuals and Families at High Risk of Melanoma** study explores how genetic and environmental factors contribute to melanoma development.
- The **Cancer Immunotherapy Trials Network** conducts multicenter clinical trials of promising new agents that boost patients' own immune systems to fight melanoma and other cancers.
- The **Genes, Environment and Melanoma (GEM) Consortium and Melanoma Genetics Consortium (GenoMEL)** explore how sun exposure and genetic factors contribute to the development and progression of melanoma and the genetics of familial melanoma, respectively.
- Four skin-cancer-specific **Specialized Programs of Research Excellence (SPOREs)** are identifying risk factors for melanoma, developing models that can be used to guide treatment, assessing the effectiveness of novel therapies, and developing new treatments.

Additional Resources for Melanoma

- The **What You Need To Know About™ Melanoma and Other Skin Cancers** booklet contains information about skin cancer risk factors and prevention, symptoms, diagnosis, treatment, and follow-up care. Information specialists also can answer questions about cancer at 1-800-4-CANCER.
- The NCI **Melanoma Home Page** directs visitors to up-to-date information on melanoma treatment, prevention, genetics, causes, screening, testing, and related topics.
- The **Common Moles, Dysplastic Nevi, and Risk of Melanoma Fact Sheet** provides information on the appearance of common moles, dysplastic nevi, and melanoma and the risk of developing melanoma.
- Information on treatment options for **melanoma** is available from **PDQ**, NCI's comprehensive cancer database.
- **Clinical trials for melanoma** can be found in NCI's list of clinical trials.

NCI Melanoma Research Portfolio



Percentage of Total Dollars by Scientific Area
Fiscal Year 2011

Data source: NCI Funded Research Portfolio. Only projects with assigned scientific area codes are included. A description of relevant research projects can be found on the NCI Funded Research Portfolio Web site.

Selected Advances in Melanoma Research

- In a phase II clinical trial, some **patients with melanoma harboring *KIT* gene mutations showed clinical responses to the targeted drug imatinib mesylate**. Published June 2011.
- An analysis of alterations in G protein-coupled receptors revealed that one such receptor known as **GRM3 is frequently mutated in melanoma** and that mutant forms of GRM3 promote tumor growth and migration. Published September 2011.
- Researchers uncovered a mechanism by which **melanoma cells become resistant to the targeted therapy vemurafenib**. Published November 2011.
- In a large multi-ethnic cohort, **non-whites / multiracials (excluding African Americans) had the same risk factors for malignant melanoma as did whites**—age, male sex, and susceptibility to sunburn. Published January 2012.
- Click here to access selected free full-text journal articles on advances in NCI-supported research relevant to melanoma. Click here to search for additional scientific articles or to complete a search tutorial on PubMed.